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(54) OPTICAL COMMUNICATION EQUIPMENT

and the transmission optical signal 103 is sent to an optical fiber 14.

(57) Abstract:

PROBLEM TO BE SOLVED: To save energy, to reduce cost and to miniaturize the equipment by using a modulation signal having a sinusoidal signal component at least at a mark part of a transmission signal through the signal processing at an electric stage for the transmission signal and the sinusoidal signal with a period equal to a clock period of the transmission signal.

SOLUTION: A signal source 24 outputs a sinusoidal signal 5 and a transmission signal 6 being an NRZ signal. A transmission signal 6 is waveform-shaped by a waveform shaping device 7 of an optical transmitter 1. The relation of phase of the sinusoidal signal 5 and the transmission signal 6 is adjusted by a variable delay attenuator 8 and sinusoidal 5 is given to an adder 9 with the transmission signal, in which the both are added as to output of the adder and the power of the outputted modulation signal is amplified and added to a DC bias voltage at a bias T circuit 12, in which the modulation signal to be fed to an external light(EA) modulator 4 is obtained, the EA modulator 4 uses this modulation signal and applies intensity modulation to a CW optical signal 101 from a semiconductor laser light source 2, amplifies a transmission optical signal 102

